

CLAIMS

1. A repeater device that is arranged in a network and includes a signature storage unit that stores signatures for controlling a passage of packets, and controls the
5 passage of the packets based on the signatures stored in the signature storage unit, comprising:

a priority order determining and providing unit that determines the priority orders of the signatures to be stored in the signature storage unit; and

10 a packet controlling unit that selects a signature from the signature storage unit in the order of high priority order as determined by the priority order determining unit and controls the passage of the packet based on selected signature.

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2. The repeater device according to claim 1, wherein the signature storage unit stores automatically generated signatures that are generated automatically according to predetermined conditional judgments and set
20 signatures set by a manager of the network, and

the priority order determining unit provides priority orders to the automatically generated signatures and the set signatures to be stored in the signature storage unit with the set signatures being provided with higher priority
25 orders than the automatically generated signatures.

3. The repeater device according to claim 1 or 2, wherein the signature storage unit stores a plurality of signatures for restricting the passage of the packets
30 within predetermined ranges, and

the priority order determining unit provides priority orders to the signatures to be stored in the signature storage unit with higher priority orders being provided to

signatures of more stringent restriction ranges.

4. The repeater device according to claim 1, further comprising:

5 a suspicious signature generating unit that detects a suspicious attacking packet based on predetermined suspicious attack detection conditions and generates a suspicious signature for restricting the suspicious attacking packet; and

10 wherein, when a suspicious signature is generated by the suspicious signature generating unit, the priority order determining unit stores the suspicious signature in the signature storage unit upon providing a priority order to the suspicious signature.

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5. The repeater device according to claim 1, further comprising:

a legitimate signature generating unit that generates legitimate signatures for enabling valid packets based on
20 predetermined legitimacy conditions; and

wherein, when a legitimate signature is generated by the legitimate signature generating unit, the priority order determining unit stores the legitimate signature in the signature storage unit upon providing a priority order
25 to the legitimate signature.

6. The repeater device according to claim 1, further comprising:

an illegitimate signature generating unit that detects
30 an illegitimate packet based on predetermined illegitimate traffic detection conditions and generates an illegitimate signature for restricting the illegitimate packet; and

wherein, when an illegitimate signature is generated

by the illegitimate signature generating unit, the priority order determining unit stores the illegitimate signature in the signature storage unit upon providing a priority order to the illegitimate signature.

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7. The repeater device according to claim 1, further comprising:

a signature receiving unit that receives suspicious signatures, for restricting suspicious attacking packets,
10 from other repeater devices; and

wherein, when a suspicious signature is received by the signature generating unit, the priority order determining unit stores the suspicious signature in the signature storage unit upon providing a priority order to
15 the suspicious signature.

8. The repeater device according to claim 1, further comprising:

a legitimate signature generating unit that generates
20 legitimate signatures for enabling valid packets based on predetermined legitimacy conditions received from the other repeater devices; and

wherein, when a legitimate signature is generated by the legitimate signature generating unit, the priority
25 order determining unit stores the legitimate signature in the signature storage unit upon providing a priority order to the legitimate signature.

9. The repeater device according to claim 1, further
30 comprising:

a signature input unit that receives and inputs signatures from a network manager; and

wherein, when a signature is input by the signature

input unit, the priority order determining unit stores the signature in the signature storage unit upon providing a priority order to the signature.

- 5 10. A network attack protection system that includes a signature storage unit that stores signatures for controlling a passage of packets, and controls the passage of the packets based on the signatures stored in the signature storage unit, comprising:
- 10 a priority order determining and providing unit that determines the priority orders of the signatures to be stored in the signature storage unit; and
- a packet controlling unit that selects a signature from the signature storage unit in the order of high
- 15 priority order as determined by the priority order determining unit and controls the passage of the packet based on selected signature.
11. A relaying method realized on a device that is
- 20 arranged in a network and that includes a signature storage unit that stores signatures for controlling a passage of packets, and controls the passage of the packets based on the signatures stored in the signature storage unit, comprising:
- 25 a priority order determining and providing unit step of determining the priority orders of the signatures to be stored in the signature storage unit; and
- a packet controlling step of selecting a signature from the signature storage unit in the order of high
- 30 priority order as determined by the priority order determining unit and controls the passage of the packet based on selected signature.

12. The relaying method according to claim 11, wherein
the signature storage unit stores automatically
generated signatures that are generated automatically
according to predetermined conditional judgments and set
5 signatures set by a manager of the network, and

the priority order determining step includes providing
priority orders to the automatically generated signatures
and the set signatures to be stored in the signature
storage unit with the set signatures being provided with
10 higher priority orders than the automatically generated
signatures.

13. The relaying method according to claim 11 or 12,
wherein

15 the signature storage unit stores a plurality of
signatures for restricting the passage of the packets
within predetermined ranges, and

the priority order determining step includes providing
priority orders to the signatures to be stored in the
20 signature storage unit with higher priority orders being
provided to signatures of more stringent restriction ranges.

14. A relaying program that causes a signature storage
unit to store signatures for controlling a passage of
25 packets, and controls the passage of the packets based on
the signatures stored in the signature storage unit,
comprising:

a priority order determining and providing unit
process of determining the priority orders of the
30 signatures to be stored in the signature storage unit; and

a packet controlling process of selecting a signature
from the signature storage unit in the order of high
priority order as determined by the priority order

determining unit and controls the passage of the packet based on selected signature.

15. The relaying program according to claim 14, wherein
5 the signature storage unit stores automatically generated signatures that are generated automatically according to predetermined conditional judgments and set signatures set by a manager of the network, and
the priority order determining step includes providing
10 priority orders to the automatically generated signatures and the set signatures to be stored in the signature storage unit with the set signatures being provided with higher priority orders than the automatically generated signatures.

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16. The relaying program according to claim 14 or 15, wherein

the signature storage unit stores a plurality of signatures for restricting the passage of the packets
20 within predetermined ranges, and

the priority order determining step includes providing priority orders to the signatures to be stored in the signature storage unit with higher priority orders being provided to signatures of more stringent restriction ranges.